

1 **CLAIM LISTING**

2 1. (Cancelled)

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4 2. (Currently amended) The hearing aid system of Claim 1-23 wherein the
5 transducer is located at a distal end of the case, which distal end is positioned under the skin
6 of the ear canal.

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8 3. (Currently amended) The hearing aid system of Claim 1-23 wherein the
9 transducer is located at a distal end of the case, which distal end protrudes slightly into the
10 ear canal.

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12 4. (Currently amended) The hearing aid system of Claim 1-23 wherein the
13 implanted power source comprises a rechargeable battery.

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15 5. (Currently amended) The hearing aid system of Claim 1-23 wherein the
16 implanted power source comprises a super capacitor.

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18 6. (Currently amended) The hearing aid system of Claim 1-23 wherein the implant
19 case comprises one piece.

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21 7. (Currently amended) The hearing aid system of Claim 1-23 wherein the implant
22 case comprises more than one piece.

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24 8. (Currently amended) The hearing aid system of Claim 1-23 wherein at least one
25 microphone of the microphone module is located remotely from the microphone module.

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27 9. (Currently amended) The hearing aid of Claim 1-23 wherein at least one
28 external antenna of the microphone module is located remotely from the microphone module.

1 10. (Currently amended) The hearing aid system of Claim 1-23 further comprising a
2 coating on at least part of the implant case, which coating comprises at least one material for
3 at least one of promoting healing, resisting infection, resisting inflammation, and facilitating
4 integration of the implant with body tissue.

5 11. (Currently amended) The hearing aid system of Claim 1-23 further comprising
6 signal processing circuitry for processing sensed signals and presenting processed signals
7 that are compatible with sounds traveling naturally through the ear canal.

9 12. (Currently amended) The hearing aid system of Claim 1-23 further comprising
10 signal processing circuitry that performs voice command recognition.

12 13. (Currently amended) The hearing aid system of Claim 1-23 further including
13 means for communicating with a commercial electronics device.

15 14. (Currently amended) The hearing aid system of Claim 13 wherein the means for
16 communicating includes a telemetry communication technique.

18 15. (Currently amended) The hearing aid system of Claim 13 wherein the means for
19 communicating includes a direct electrical connection.

21 16. (Currently amended) The hearing aid system of Claim 1-23 further comprising:
22 at least one external programming unit for customizing the hearing aid for a
23 user; and

24 means for communicating with the at least one external programming unit.

25 17. (Currently amended) The hearing aid system of Claim 16 wherein the at least
26 one external programming unit is a remote control.

1 18. (Currently amended) The hearing aid system of Claim 17 wherein the
2 microphone module includes the remote control.

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4 19. (Cancelled)

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6 20. (Currently amended) A hearing aid system including:

7 a case, having a proximal end and a distal end, configured for implantation in a
8 patient's body with said case proximal end subcutaneously implanted proximate to a patient's
9 retro-auricular space and said case distal end implanted proximate to said patient's outer ear
canal;

10 microphone means remote from said case for generating an output signal
11 representative of audible sound;

12 signal processing circuitry in said case responsive to said microphone output
13 signal for producing an electric drive signal; and

14 a an acoustic transducer in said case proximate to said distal end responsive to
15 said electric drive signal for projecting an acoustic output signal into said patient's outer ear
canal.

17 21. (Original) The system of claim 20 wherein said microphone means for
18 generating said output signal comprises a housing external to said patient's body, said
19 housing including a microphone.

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21 22. (Original) The system of claim 21 including wireless telemetry means for
22 coupling said microphone output signal to said signal processing circuitry.

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1 23. (New) A hearing aid system comprising:
2 an implant configured for insertion into a recess under the skin of a patient's
3 retro-auricular space, for projecting acoustic energy into said patient's outer ear canal without
4 occluding said ear canal, said implant comprising:
5 a case having a proximal end and a distal end,
6 an acoustic transducer mounted in said case proximate to said distal end
for producing acoustic energy;
7 implant electronic circuitry in said case having an output for driving said
8 acoustic transducer;
9 an implant antenna electrically connected to an input of said electronic
10 circuitry; and
11 a power source electrically connected to said electronic circuitry;
12 a microphone module configured for use external to said case, said module
comprising:
13 a housing;
14 external electronics within said housing;
15 at least one microphone electrically connected to an input of said
16 external electronics;
17 at least one external antenna electrically connected to an output of said
18 external electronics;
19 a power source electrically connected to said external electronics; and
20 at least one telemetry link between said external antenna and said implant
21 antenna, and wherein audible sound received by said microphone is processed by said
22 external electronics and transmitted by said telemetry link to said implant electronic circuitry
for causing said transducer to project acoustic energy into said patient's outer ear canal.

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1 24. (New) A hearing aid system comprising:
2 an implant configured for insertion into a recess under the skin of a patient's
3 retro-auricular space for projecting acoustic energy into said patient's outer ear canal without
4 occluding said ear canal, said implant comprising:
5 a case having a proximal end and a distal end,
6 acoustic transducer means mounted in said case proximate to said distal
7 end for producing acoustic energy;
8 implant circuit means in said case for supplying a drive signal to said
9 acoustic transducer means;
10 a microphone module external to said case, said module comprising:
11 a housing;
12 microphone means in said housing for converting sound energy to a
13 representative electric signal; and
14 means for wirelessly communicating said representative electric signal to said
15 implant circuit means for driving said acoustic transducer to project acoustic energy into said
16 patient's outer ear canal.

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